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XI.—*New or little-known Tipulidæ (Diptera).*—XLVIII.
Australasian Species. By CHARLES P. ALEXANDER,
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THE crane-flies described at this time are all Australian members of the vast genus *Molophilus*. The majority of the species are from South Australia and Victoria, where they were taken by Mr. F. Erasmus Wilson, to whom all types have been returned. A few additional species were taken in Tasmania and New South Wales by Dr. André L. Tonnoir, such material having been returned to the collector. One further species was taken in Dorrigo, New South Wales, by Mr. W. Heron, the type being in my own collection. I wish to express my deep thanks to the above-mentioned gentlemen for their kindly interest in collecting these fragile flies.

Molophilus militaris, sp. n.

Belongs to the *plagiatus* group; general coloration of thorax yellow, the chief præscutum with three brown stripes; halteres infuscated; legs chiefly dark brown; wings cream-coloured, with a heavy brown pattern, cell *2nd A* being uniformly darkened; male hypopygium

with the basal dististyle a long sinuous black rod, narrowed to the acute tip, the surface with abundant microscopic spines.

Male.—Length about 3.5–3.8 mm.; wing 4.5–4.8 mm.

Female.—Length about 4.5 mm.; wing 5–5.2 mm.

Rostrum and palpi brownish black. Antennæ short, dark brown; flagellar segments oval, with conspicuous verticils. Head obscure yellow, the centre of the vertex infuscated.

Pronotum yellow. Mesonotal præscutum yellow, with three distinct dark brown stripes; scutal lobes dark brown, the median region more yellowish; scutellum conspicuously yellow; postnotal mediotergite dark brown. Pleura dark brown, the ventral portions somewhat paler. Halteres infuscated, the base of the stem obscure yellow. Legs with the coxæ and trochanters obscure yellow; femora brownish yellow, with dark setæ, the remainder of the legs passing into brown. Wings cream-coloured, the costal portion more yellowish, the disk with a heavy brown pattern, chiefly appearing as conspicuous seams along the cord, vein R_5 , outer ends of veins M_3 and M_4 , and as a broad seam the entire length of vein Cu ; cell 2nd A uniformly infumed; macrotrichia dark, the costal fringe paler; veins pale, darker in the infuscated areas. Venation: R_{2+3} at origin perpendicular or nearly so; vein 2nd A relatively short, ending opposite or before $m-cu$.

Abdomen dark brown, the hypopygium yellow. Male hypopygium with the apical beak of basistyle relatively slender, in cases with a basal shoulder. Basal dististyle a very long sinuous blackened rod, gradually narrowed to an acute point, the entire surface set with microscopic spines, one of which on outer margin is sometimes long and well developed. Outer dististyle with the arms appressed, the outer with abundant microscopic setulæ. Ædeagus long and slender. Phallosomic structure an oval setiferous cushion.

Hab. Victoria.

Holotype, ♂, Belgrave, in fern gully, July 14, 1929 (*F. E. Wilson*).

Allotopotype, ♀.

Paratopotypes, 3 ♂♀; *paratypes*, 2 ♂♂, Kinglake, altitude about 2500 feet, June 23, 1929 (*F. E. Wilson*); 4 ♂♀, Warragul, June 30, 1929 (*F. E. Wilson*).

This late autumn and winter crane-fly is very distinct from all described species of the genus.

Molophilus bunyipensis, sp. n.

Belongs to the *plagiatus* group; antennæ (♂) short; general coloration yellow; male hypopygium with the ventral lobe of basistyle very long, armed subapically with a group of spines, in addition to the usual beak-like spine which is placed more basad; inner dististyle a flattened blade, the oblique apex with a series of about ten spines, the more basal longest; near apex of style with two or three pencils of elongate setæ.

Male.—Length about 4.2 mm.; wing 5 mm.

Rostrum brown; palpi black. Antennæ (♂) short, if bent backward extending about to mid-distance between wings and halteres; scapal segments yellow, the flagellum darker; flagellar segments subcylindrical, the verticils exceeding the segments in length. Head ochreous, the centre of the vertex darkened.

Mesonotal præscutum brownish yellow, shiny, with vague indications of a capillary darker line near the suture; anterior lateral pretergites and humeral region of præscutum even paler; posterior sclerites of mesonotum chiefly testaceous-yellow. Pleura testaceous-yellow. Halteres yellow, the knobs passing into pale brown. Legs with the coxæ and trochanters yellow; legs broken; a single detached leg mounted on the card-point is of unusual length for the size of the fly and may not belong here; it is yellow, the outer tarsal segments passing into brownish black. Wings cream-coloured, the veins pale yellow; macrotrichia brown. Venation: R_2 lying some distance distad of level of $r-m$; vein 2nd A ending about opposite the level of $m-cu$.

Abdomen yellowish brown, the hypopygium chiefly yellow. Male hypopygium with the ventral lobe of basistyle very long and narrow, the apex armed with a group of spines placed just before tip, these directed caudad; more basally a small chitinized beak that is simple to weakly bifid; extending cephalad from this region down the mesal face of the lobe is a narrow chitinized strip that is suggestive of the condition found in the *pervagatus* group. Both dististyles placed close together at base of ventral lobe; outer dististyle elongate, a sinuous blackened rod, the apex unequally bifid, the short inner arm a blunt blackened spine or lobe, the long sinuous outer arm a flattened blade. Inner dististyle a short flattened blade, a little expanded outwardly, the oblique

apex with a row of about ten spines or teeth, the most basal largest; two or three pencil-like groups of long setæ near outer end of style. Phallosomic structure a depressed glabrous plate, a little wider at outer end, the caudal margin straight or very gently emarginate.

Hab. Victoria.

Holotype, ♂, Beenak, near head of the Bunyip River, in beech gully, March 9, 1930 (*F. E. Wilson*).

Paratopotype, ♂.

Molophilus bunyipensis is remarkably distinct from all other known species of the genus.

Molophilus distinctissimus, sp. n.

Belongs to the *plagiatus* group; allied to *M. perdistinctus*; antennæ (♂) elongate, bead-like; general coloration of thorax light reddish brown; wings greyish subhyaline; R_2 lying far before level of $r-m$; vein 2nd *A* unusually short; male hypopygium with the phallosomic structure powerful, blackened, median in position, the tips of the arms weakly bidentate; ædeagus confluent with the phallosome, jutting beyond it as a median point.

Male.—Length about 2.8 mm.; wing 3.6–3.7 mm.

Female.—Length about 2.8 mm.; wing 3 mm.

Rostrum and palpi brown. Antennæ (♂) elongate, bead-like, when entire only a trifle shorter than the entire body, brownish black throughout; flagellar segments with the basal enlargement conspicuous, slightly exceeding the apical pedicel. Head brown.

Posterior pronotum and anterior lateral pretergites whitish. Mesonotal præscutum light reddish brown, the lateral portions brighter; posterior sclerites of mesonotum uniformly reddish brown. Pleura testaceous-brown. Halteres relatively elongate, pale, the knobs dark brown. Legs with the coxæ and trochanters testaceous; remainder of legs pale yellowish brown, the outer tarsal segments darkened; fore tibiæ (♂) without an enlarged darker subbasal ring. Wings greyish subhyaline, the base and costal region more yellowish; veins and macrotrichia darker. Venation; *Sc* relatively short, Sc_1 ending just beyond R_2 ; R_2 lying far before level of $r-m$; $m-cu$ strongly arcuated; vein 2nd *A* short, ending some distance before proximal end of $m-cu$.

Abdomen brown, the hypopygium more brownish yellow. Male hypopygium with the apical beak of the basistyle small and slender. Outer dististyle heavily blackened, the arms short and stout, the outer more slender, smooth, the inner widely expanded, the truncated apex microscopically denticulate. Basal dististyle a very small straight rod. Phallosomic structure generally as in *perdistinctus*, appearing as a heavily blackened median structure, the caudal-lateral angles produced laterad into powerful arms that curve inwards at tips, these apices much paler and unequally bidentate; ædeagus confluent with this structure, jutting beyond it as a short median point; in addition to this powerfully constructed blackened phallosome there is a superimposed flattened plate, the caudal margin of which is deeply emarginate.

Hab. Victoria.

Holotype, ♂, Ben Cairn, near Millgrove, in beech gully, altitude 2900–3200 feet, February 9, 1929 (*F. E. Wilson*).

Allotopotype, ♀.

Paratopotype, ♂; *paratype*, ♂, Seville, November 24, 1929 (*F. E. Wilson*).

Despite the very different general appearance, the relationship of *Molophilus distinctissimus* to *M. perdistinctus*, Alexander, is certain.

Molophilus obliteratus, sp. n.

Male.—Length about 4.5 mm.; wing 5.3 mm.

Female.—Length about 5 mm.; wing 5.5 mm.

Belongs to the *plagiatus* group, *annulipes* subgroup; most closely allied to *M. persimilis*, Alexander (New South Wales), differing especially in the details of coloration and structure of the male hypopygium.

Mesonotal præscutum light fulvous, the lateral margins broadly china-white. Pleura pale, with a distinct brown dorso-longitudinal stripe. Legs with the femoral rings very narrow, paler in the male than in the female, the pale ring between extensive, from two to three times as wide as the darkened ring. Dark wing-spot very conspicuous. Male hypopygium about as in *persimilis*, with the following differences: Basistyle with the dorsal lobe small, the spine very thin and only weakly chitinized; apex of ventral lobe of basistyle evenly rounded to the very deep and stout chitinized beak, not at all conically

produced. Outer dististyle even longer and more slender-stemmed than in *persimilis*. Basal dististyle with the two apical spines subequal in length, but one much stouter than the other; subapical spine very small and more nearly apical in position.

Hab. Victoria.

Holotype, ♂, Ben Cairn, near Millgrove, in beech gully, altitude 2900–3200 feet, February 9, 1929 (*F. E. Wilson*).

Allotopotype, ♀.

Molophilus elatus, sp. n.

Belongs to the *gracilis* group and subgroup; mesonotal præscutum reddish brown, with a darker median stripe; postnotum and pleura darker greyish brown; knobs of halteres light yellow; legs yellow, the femoral tips broadly brownish black; wings suffused with greyish brown, the prearcular and costal regions more yellowish; male hypopygium with all lobes of basistyle obtuse; both dististyles narrowed to acute points.

Male.—Length about 3.5 mm.; wing 4.4 mm.

Rostrum yellowish brown; palpi black. Antennæ relatively long, if bent backward extending about to the wing-root or just beyond; scapal segments dark; basal segment of flagellum pale brown, the remaining segments brownish black, long-oval, with very long verticils. Head grey, the vertex broad.

Mesonotal præscutum reddish brown, with a darker greyish-brown median stripe; scutum and scutellum light brown, the centres of the scutal lobes slightly darker; postnotum and pleura dark greyish brown. Halteres pale, the knobs light yellow. Legs with the fore and hind coxæ dark brown, the middle coxæ and all trochanters more yellowish; femora obscure yellow, the tips broadly brownish black; tibiæ brownish yellow, the tips more narrowly blackened; fore tibiæ (♂) with an unusually large black subbasal ring, swollen and with a distinct tympaniform area; basitarsi yellow, the outer half and remainder of tarsi brown. Wings with a strong greyish-brown suffusion, especially evident as seams along the veins; stigmal region more suffused with brown; prearcular and costal regions broadly light yellow, the included veins luteous; remaining veins brown, the macrotrichia dark brown. Venation: R_2 opposite or just

proximad of the basal section of R_5 ; vein 2nd A gently sinuous, ending about opposite one-fourth the length of the petiole of cell M_3 .

Abdomen brown, the hypopygium scarcely brighter. Male hypopygium with the basistyle produced into three distinct lobes, none of which is spinous; dorsal lobe slender, provided with long coarse setæ to apex; ventral lobe with coarse retrorse setæ; mesal lobe glabrous, flattened, the margin at apex microscopically denticulate. Outer dististyle a slender flattened blade that gradually widens outwardly, at beyond mid-length further produced into a curved blackened spine, the surface of style at this point with microscopic tubercles and abundant delicate setulæ. Inner dististyle nearly as long but more slender, gradually narrowed to the gently curved blackened apex, before tip on concave side, with microscopic appressed roughenings. Ædeagus long, exceeding either dististyle in length. Phallosomic structure oval, apparently with fine setæ except at apex.

Hab. South Australia.

Holotype, ♂, Aldgate, Mt. Lofty Ranges, October 1929 (F. E. Wilson).

Molophilus elatus is a very distinct species in its group.

Molophilus subhorridus, sp. n.

Male.—Length about 3·3–3·8 mm.; wing 4·2–4·8 mm.

Female.—Length about 4·8–5 mm.; wing 5·2–5·4 mm.

Belongs to the *gracilis* group and subgroup; closely allied to *M. horridus*, Alexander (Victoria-Tasmania), differing especially in the smaller size, details of coloration, and structure of the male hypopygium.

General coloration of mesonotal præscutum, scutum, and postnotum light reddish brown, much paler than in *horridus*, not contrasting so strongly with the yellow scutellum. Pleura similarly pale brown. Venation and wing-pattern much as in *horridus*, the veins beyond the cord shorter. Abdomen dark brown, the hypopygium conspicuously yellow. Male hypopygium with the outer dististyle proportionately wider than in *horridus*, the apical spine shorter and nearly straight; spine of the caudal-lateral angle nearly straight and paralleling the major spine, the apex of the style between these points truncate and provided with a series of needle-like denticles.

Hab. Victoria.

Holotype, ♂, Ben Cairn, near Millgrove, in beech gully, altitude 2900–3200 feet, February 9, 1929 (*F. E. Wilson*).

Allotopotype, ♀.

Paratopotypes, 2 ♂♂; *paratype*, 1 ♂, Mt. Donna Buang, altitude 3000–3800 feet, March 2, 1930 (*F. E. Wilson*).

Molophilus bawbawiensis, sp. n.

Belongs to the *gracilis* group and subgroup; general coloration brownish grey; scutellum yellow; knobs of halteres light yellow; wings greyish, the prearcular region light yellow; male hypopygium with the terminal spine of dorsal lobe of basistyle and the ventral lobe of basistyle both unusually long and slender; inner dististyle long and narrow, unequally bifid, the inner arm a very pale delicate rod.

Male.—Length about 4 mm.; wing 5 mm.

Female.—Length about 4.5 mm.; wing 5.2 mm.

Rostrum and palpi black. Antennæ (♂) moderately long, if bent backward extending about to the wing-root, black, the flagellar segments with a dense white pubescence. Head grey.

Anterior lateral pretergites pale yellow. Mesonotal præscutum brown, sparsely pruinose; pseudosutural foveæ and tuberculate pits black; scutum brownish grey; scutellum yellow; postnotum and pleura plumbeous. Halteres pale, the knobs light yellow. Legs dark brown, the femoral bases extensively paler; fore tibiæ (♂) with a slightly dilated but concolorous subbasal ring. Wings greyish, the prearcular region light yellow; a scarcely apparent darker clouding along the cord; veins pale brown, the macrotrichia darker brown. Venation: R_2 lying shortly beyond the level of $r-m$; vein 2nd A ending just beyond the origin of the petiole of cell M_3 .

Abdomen brownish black, the hypopygium paler brown. Male hypopygium with the terminal spine of the dorsal lobe of basistyle unusually long and slender; ventral lobe of basistyle unusually long and slender; mesal lobe broad, terminating in a small spine. Outer dististyle relatively narrow, blade-like, at apex with a few microscopic denticles; surface of style on apical half with microscopic appressed spines that pass into microscopic setulæ. Inner dististyle very long and slender, very unequally bifid, the outer arm a small glabrous lobe,

the inner arm very long and slender, subequal in length to the basal portion of the style, almost transparent, provided with setæ.

Hab. Victoria.

Holotype, ♂, Walhalla, foot of Bawbaw Mts., April 18–22, 1930 (*F. E. Wilson*).

Allotopotype, ♀.

Paratopotypes, 2 ♂♂.

Molophilus bawbawiensis is most closely allied to *M. tenuiclavus*, Alexander, in the nature of the dorsal and ventral lobes of the basistyle of the male hypopygium, differing conspicuously in the other details of this organ, such as both dististyles and the mesal lobe of the basistyle.

Molophilus sublyratus, sp. n.

Belongs to the *gracilis* group, *ruficollis* subgroup; allied to *M. lyratus*; general coloration brownish black, the humeral region of the præscutum more reddish; legs chiefly blackened; wings with a brown tinge; male hypopygium with the basal dististyle an arcuated rod that terminates in a subacute blackened point bearing conspicuous setæ; lateral arms of phallosomic structure with microscopic teeth.

Male.—Length about 4.4–4.6 mm.; wing 5.2–5.6 mm.

Female.—Length about 5 mm.; wing 6 mm.

Rostrum and palpi black. Antennæ black throughout, relatively short (♂), if bent backward extending to slightly beyond the wing-root; flagellar segments long-oval, the verticils much exceeding the segments. Head brown, the centre of the vertex darker.

Pronotum dark brown, the anterior lateral pretergites yellowish white. Mesonotum brownish black, the humeral region of the præscutum more reddish; pseudosutural foveæ blackened. Pleura plumbeous-black, the dorso-pleural region obscure yellow; in cases, the pleura vaguely marked with paler, especially the pleurotergite. Halteres yellow, the stem a little more obscure. Legs with the coxæ brown, the trochanters more brownish yellow; femora brown, their bases narrowly paler, the fore and middle femora somewhat more blackened; tibiæ and tarsi black; fore tibiæ (♂) with a dilated subbasal ring. Wings with a brownish tinge, the veins and macrotrichia darker. Venation: R_2 lying just beyond the level of

$r-m$; vein 2nd A elongate, extending to about opposite one-fourth the length of the petiole of cell M_3 .

Abdomen, including the hypopygium, black. Male hypopygium with the basistyle elongate, terminating in a small fleshy lobe. Both dististyles placed far distad on face of basistyle. Outer dististyle with the stem very short to almost lacking, the two arms conspicuous, separated by a narrow notch. Basal dististyle a long arcuated rod, the tip blackened, subacute, clothed with abundant conspicuous setæ; inner margin of style expanded into a flange. Phallosomic structure conspicuously lyriform, the arms long and nearly straight, narrowed to acute points, the mesal margin of each arm at near mid-length with a series of acute, nearly appressed teeth. Ædeagus long and slender, a little longer than either arm of the phallosome.

Hab. Victoria.

Holotype, ♂, Ben Cairn, near Millgrove, in beech gully, altitude 2900–3200 feet, February 9, 1929 (*F. E. Wilson*).

Allotype, ♀, Healesville, April 21, 1929 (*F. E. Wilson*).

Paratopotype, ♂; *paratypes*, 1 ♂, with the allotype; 1 ♂, 1 ♀, Beenak, near head of the Bunyip River, in beech gully, March 9, 1930 (*F. E. Wilson*).

Molophilus sublyratus is amply distinct from the related *M. lyratus*, Alexander.

Molophilus permutatus, sp. n.

Belongs to the *gracilis* group, *ruficollis* subgroup; allied to *immutatus*; general coloration black; anterior lateral pretergites, dorsopleural region, and knobs of halteres yellow; male hypopygium without a spine on mesal lobe of basistyle; outer dististyle an elongate simple sinuous rod, the apex entire, curved; inner dististyle an elongate blackened structure, the outer margin on distal half with microscopic serrations; phallosomic structure with the arms weakly bidentate at tips, the crown of the structure with a dense tuft of setæ.

Male.—Length about 4–4.2 mm.; wing 5–5.2 mm.

Female.—Length about 5 mm.; wing 5.4 mm.

Rostrum, palpi, and antennæ black, the last short in both sexes. Head grey.

Anterior lateral pretergites light yellow. Mesonotum black, sparsely dusted with grey, especially on the interspaces, the ground-colour most evident as four præscutal

stripes. Pleura black, sparsely dusted with grey, the dorsopleural region obscure yellow. Halteres dusky, the knobs light yellow. Legs black throughout. Wings with a strong blackish tinge, the prearcular region more yellowish; veins and macrotrichia darker brown. Venation: R_2 lying shortly distad of level of $r-m$; vein 2nd A ending just beyond the base of the petiole of cell M_3 .

Abdomen black, very sparsely pruinose. Male hypopygium without a spine on mesal lobe of basistyle. Outer dististyle an elongate simple sinuous black rod, the extreme tip curved. Inner dististyle a powerful black arcuate to feebly angulate structure, the outer margin on distal half with a series of small serrations. Phallosomic structure almost as in *immutatus*, a blackened median structure with divergent arms, these weakly bidentate at tips; crown of the structure with a dense tuft of setæ. Ovipositor with the tergal valves horn-colour, very long and slender, gently upcurved; sternal valves black, straight.

Hab. Victoria.

Holotype, ♂, Mt. Donna Buang, above Warburton, altitude 3000–3800 feet, March 2, 1930 (*F. E. Wilson*).

Allotopotype, ♀.

Paratopotypes, 2 ♂♂.

Molophilus permutatus requires comparison only with *M. immutatus*, Alexander, differing in the almost uniformly blackened coloration of the body and legs, and in the details of the male hypopygium, especially of the basistyle, the dististyles, and the phallosomic structure.

Molophilus vividus, sp. n.

Belongs to the *gracilis* group, *ruficollis* subgroup; mesonotal præscutum reddish, with a broad central brown stripe; pleura yellow, with a transverse brown girdle; halteres yellow; legs black, the genua narrowly pale yellow; wings cream-coloured, the long costal fringe and three or four hair-patches on the disk black; male hypopygium with the apical lobe of the basistyle abruptly narrowed; outer dististyle a sinuous simple black rod; inner dististyle long and sinuous, expanded at apex into a triangular pale blade.

Male.—Length about 3.8–4 mm.; wing 4.8–5 mm.

Rostrum brown; palpi black. Antennæ of moderate length, if bent backward ending some distance before

the wing-root ; scapal segments obscure yellow ; flagellum black. Head brownish grey, obscure yellow behind.

Pronotum and anterior lateral pretergites yellow. Mesonotal præscutum reddish, the broad central portion dark brown, in cases extended as a conspicuous median stripe almost to suture ; humeral triangles yellow ; scutal lobes reddish brown, the mesal portions darker ; scutellum black ; postnotal mediotergite brown to reddish brown, more darkened posteriorly, paling to yellow on sides. Pleura reddish brown, with a dark brown girdle, involving the anepisternum and ventral sternopleurite. Halteres pale, the knobs light yellow. Legs with the coxæ and trochanters yellow ; remainder of legs black, the genua narrowly but conspicuously pale yellow, this involving both the extreme tip of femur and base of tibia. Wings whitish cream-colour, the prearcular and costal regions more yellowish ; veins light yellowish brown ; macrotrichia brown, the costal fringe long and conspicuous, black ; three or four conspicuous areas of black trichia, located on anterior cord, fork of M , near base of M_4 and on M , near base. Venation : vein 2nd A relatively short, ending about opposite $m-cu$.

Abdomen brownish black, the hypopygium obscure yellow. Male hypopygium with the apical lobe of basistyle very slender, abruptly narrowed. Outer dististyle entirely black, appearing as a simple black sinuous rod, very gradually narrowed to the acute tip. Inner dististyle arising from an expanded bladder-shaped base, the long stem very long and sinuous, widely expanded into a triangular pale blade that is split by a linear notch into two unequal lobes.

Hab. Victoria.

Holotype, ♂, Mt. Donna Buang, above Warburton, altitude 3000–3800 feet, March 2, 1930 (*F. E. Wilson*).

Paratopotypes, 3 ♂♂.

Molophilus vividus is very different from all hitherto described species of the genus.

Molophilus trigonalis, sp. n.

Male.—Length about 4.5–4.7 mm. ; wing 5.2–5.8 mm. ; antenna about 2.7–2.8 mm.

Female.—Length about 5 mm. ; wing 6–6.2 mm.

Belongs to the *gracilis* group, *ruficollis* subgroup ; closely allied to *M. expansus*, Alexander (Tasmania), differing most conspicuously in the shorter antennæ

and details of structure of the male hypopygium, notably the basal dististyle.

Antennæ (♂) about four-fifths the length of that of *expansus*, the individual flagellar segments maintaining this general proportion. Coloration of thoracic dorsum reddish brown, the dorsopleural region somewhat darker. Abdomen dark brown, the basal sternites darker. General features of the male hypopygium as in *expansus*, the outer dististyle in both species conspicuously trilobed. Basal dististyle a large, nearly straight rod, the apex a little expanded into a triangular head that is further produced laterad into a powerful spine; in addition, the apex of the head is provided with one or two smaller spines.

Hab. Victoria.

Holotype, ♂, Mt. Donna Buang, above Warburton, altitude 3000–3800 feet, March 2, 1930 (*F. E. Wilson*).

Allotype, ♀, Beenak, head of Bunyip River, in beech gully, March 9, 1930 (*F. E. Wilson*).

Paratopotype, 1 ♂; *paratypes*, 4 ♂♀, with the allotype.

Molophilus subalpicola, sp. n.

Male.—Length about 4.6–5 mm.; wing 5.5–6.3 mm.

Female.—Length about 6 mm.; wing 7 mm.

Belongs to the *gracilis* group, *ruficollis* subgroup; closely allied to *M. alpicola*, Alexander, differing especially in the details of structure of the male hypopygium.

Mesonotal postnotum not conspicuously darkened. Femora not darkened at tips. Wings broad, the brown pattern more extensive than in *alpicola*, appearing as a conspicuous seam along the cord, in cases as a broad seam along the outer section of vein Cu_1 and occupying most of cell 2nd *A* in the axillary region. Venation: R_2 some distance beyond the level of *r-m*. Male hypopygium with the basal dististyle a stout blackened structure, the basal two-thirds stout, beyond this point angularly bent into a slender terminal spine, the point of angulation on outer margin with a group of three or more stout spines; style at base with a stout blackened lobe.

Hab. Victoria.

Holotype, ♂, Mt. Donna Buang, above Warburton, altitude 3000–3800 feet, March 2, 1930 (*F. E. Wilson*).

Allotype, ♀, Ben Cairn, above Millgrove, December 22, 1929 (*F. E. Wilson*).

Paratopotypes, 4 ♂♂.

Molophilus congregatus, sp. n.

Belongs to the *gracilis* group, *ruficollis* subgroup; size relatively large (wing, ♂, over 4.5 mm.); general coloration grey, the posterior pronotum obscure orange; anterior lateral pretergites and knobs of halteres yellow; scutellum orange-yellow; antennæ and legs black; wings strongly tinged with blackish; male hypopygium with the basal dististyle a small simple rod, gently sinuous to the blunt tip.

Male.—Length about 4.4–5 mm.; wing 4.7–5.3 mm.

Female.—Length about 5 mm.; wing 5.3–5.5 mm.

Rostrum and palpi brownish black. Antennæ short in both sexes, black throughout; flagellar segments oval, the verticils exceeding the segments. Head yellowish grey, the orbits clearer grey.

Posterior pronotum obscure orange; anterior lateral pretergites yellow. Mesonotal præscutum grey, with two intermediate dark brown stripes, the usual lateral stripes not or but slightly indicated; scutum grey; scutellum orange-yellow, in cases more or less obscured; postnotum dark grey. Pleura dark grey. Halteres dusky, the knobs conspicuously light yellow. Legs with the coxæ grey; trochanters brown; remainder of legs black; fore tibiæ (♂) without an evident modified basal ring. Wings with a strong blackish tinge, the preareolar region yellow; veins brownish black, darker than the ground-colour. Venation: R_2 lying some distance distad of level of $r-m$; $m-cu$ strongly sinuous; vein 2nd A ending about opposite the cephalic end of $m-cu$.

Abdomen dark grey, the hypopygium dark reddish brown. Male hypopygium with the ventral lobe of basistyle stout. Both dististyles small, the outer black, weakly bifid at apex. Basal dististyle a paler simple rod, subequal in length to the outer style but more slender, gently sinuous to the blunt tip. Phallosomic structure longer than broad, the entire surface with many microscopic punctures, together with a small apical tuft of setæ.

Hab. Victoria.

Holotype, ♂, Thompson River, near Walhalla, April 18–22, 1930 (*F. E. Wilson*).

Allotopotype, ♀.

Paratopotypes, several ♂♀.

Molophilus congregatus is very different from all allied members of the subgroup. The following observations on the occurrence of this species by Mr. Wilson are very interesting :—

“Thompson River, about two miles from the township, is a typical shallow rocky-bottomed trout stream. At a point where the stream-bed widened out, leaving wide exposed stretches, this species occurs. About twenty square yards of the dry bed were absolutely covered with these crane-flies, so thick, indeed, that a person could not place another between any two. A number were hiding beneath debris and stones. The majority of the specimens were males, but a certain number of females were present, many *in copula*. The flies rarely took wing, contenting themselves with crawling about. A minute examination of the ground failed to show a single pupal skin, either on the surface or beneath debris. A further search of the water's edge and partly submerged stones yielded nothing and it would seem that the species might be aquatic, leaving the cast pupal skin in the water following emergence. No similar groups of these flies were found elsewhere along the river-bed.”

Molophilus chloris inquirendus, subsp. n.

Very similar to typical *chloris*, Alexander, differing especially in the details of structure of the male hypopygium.

Outer dististyle with the outer arm long and slender, narrowed to an acute point ; inner arm narrowed at base, gently widened distally, the tip broadly obtuse. Basal dististyle more blackened. Phallosomic structure a broad flattened plate, the apex obtuse, gently crenulate.

Hab. Victoria.

Holotype, ♂, Healesville, April 21, 1929 (*F. E. Wilson*).

Allotopotype, ♀.

Paratopotypes, 5 ♂♀.

Molophilus tersus, sp. n.

Male.—Length about 3 mm. ; wing 3·7–3·8 mm.

Female.—Length about 3·5 mm. ; wing 4 mm.

Belongs to the *pervagatus* group ; allied to *M. exquisitus*, Alexander, differing especially in the structure of the male hypopygium.

Vertex obscure yellow, the central portion extensively darkened. Mesonotal præcutum ranging from light brown to reddish brown, the posterior sclerites of the notum and the pleura dark brown; in cases, a vague yellow spot between the sternopleurite and anepisternum. Halteres bright yellow. Legs with the coxæ and trochanters yellow; femora yellow, with two black rings, the apical ring broad, the subterminal ring narrow, subequal to the subterminal yellow ring; tibiæ yellow, the tips blackened; fore tibiæ (♂) with a very narrow black subbasal ring; tarsi yellow, the tips of the individual segments darker, the outer segments uniformly so. Wings yellow, the basal and costal portions clearer yellow; three conspicuous greyish cross-bands that are more or less complete, the outer including the wing-apex; band at cord broken on *M*; basal band broader, extending from *M* to axillary margin. Macrotrichia brown, forming darker patches on the basal two cross-bands. Venation: vein 2nd *A* relatively short, *Sc*₁ ending just before the caudal end of *m-cu*. Abdomen dark brown, the hypopygium a little brighter. Male hypopygium having the general structure of *exquisitus*, but the outer basal dististyle very distinct, appearing as a long slender chitinized rod, broadest on basal half, thence gradually narrowed to a long needle-like point; outer surface on basal two-thirds with a series of conspicuous spines, the outer ones larger and more erect; from this point outwards there are numerous small appressed spines; outer surface of style near the outer erect spine with conspicuous erect setæ.

Hab. New South Wales.

Holotype, ♂, Eastern Dorrigo, altitude 2000–3000 feet, February 27, 1929 (*W. Heron*).

Allotopotype, ♀.

Paratopotypes, 2 ♂♂.

Molophilus subasper, sp. n.

Belongs to the *pervagatus* group; allied to *exquisitus*; mesonotum light brownish yellow, the posterior sclerites and pleura dark brown; femora with two brown rings; tibiæ tipped with brown, in male the fore tibiæ with a subbasal dark ring; wings yellow, clouded with pale greyish brown; male hypopygium with the outer disti-

style terminating in a large simple head; outer basal dististyle expanded outwardly, each angle produced into a spinous point.

Male.—Length about 3.3 mm.; wing 4.1 mm.

Rostrum dark brown; palpi brownish black. Antennæ with the scapal segments light yellow; basal segments of flagellum yellow, the outer segments more darkened; outer flagellar segments fusiform, with very long conspicuous verticils. Head brownish grey, the centre of the vertex somewhat darkened.

Mesonotal præscutum light brownish yellow, narrowly darkened laterally; posteriorly sclerites of mesonotum, including the scutellum, darker brown. Pleura dark brown, very vaguely marked with paler on the dorsal sternopleurite; dorsopleural region chiefly pale. Halteres pale yellow. Legs with the coxæ and trochanters yellow; femora yellow, with two dark rings, the outermost broad, darker brown, the inner ring subequal in width but much paler, both rings subequal to the pale yellow annulus enclosed; tibiæ yellow, the tips narrowly dark brown; fore tibiæ (♂) with a narrow darkened subbasal ring; tarsi brownish black, the proximal ends of basitarsi narrowly yellowish. Wings yellowish, handsomely clouded with pale greyish brown, including an interrupted band along the cord; an extensive diffuse washing across the disk beyond the cord; a broken band at the level of origin of R_3 , most evident in the anal field; veins pale yellow, darker in the clouded areas. Macrotrichia dark brown. Venation: R_{2+3} and R_{4+5} subequal; petiole of cell M_3 relatively short, about one-third longer than $m-cu$; vein 2nd A ending just before to nearly opposite the caudal end of $m-cu$.

Abdomen brown, the hypopygium more yellowish. Male hypopygium with the apex of the basistyle broadly truncate, the outer angle a little further produced, the cephalic portion similarly produced. Outer dististyle with an unusually large, simple, nearly circular head. Outer basal dististyle a straight rod, narrowed at near mid-length, expanded outwardly, the lateral angle with two small chitinized teeth, the inner angle drawn out into one or two long spines, with progressively smaller spines at base; apex of style between these angles with a conspicuous fringe of setæ. Inner basal dististyle a very slender, nearly straight rod, shorter than the outer basal

dististyle. Phallosomic structure a more or less rectangular chitinized plate, the apex truncated to weakly concave.

Hab. Victoria.

Holotype, ♂, Healesville, April 21, 1929 (*F. E. Wilson*).

Molophilus subasper is readily told from *M. exquisitus*, Alexander, and *M. gracillimus*, Alexander, by the structure of the male hypopygium.

Molophilus subhastatus, sp. n.

Belongs to the *pervagatus* group; allied to *hastatus*; general coloration of mesonotum brown, without a reddish tinge; pleura dark brown, the dorsal sternopleurite more yellowish; femora obscure yellow, the tips narrowly blackened; wings greyish brown, vaguely marked with subhyaline and darker brown; male hypopygium with the outer basal dististyle a long, nearly straight rod, acute at apex, before tip with numerous weak setulæ; inner basal dististyle a small rod that is expanded at apex into a small unarmed spatulate head.

Male.—Length about 2.5 mm.; wing 3-3.2 mm.

Rostrum and palpi brown. Antennæ moderately elongate, if bent backward extending about to the wing-root; first segment of scape light yellow; remainder of organ dark brown. Head yellow, the centre of vertex extensively infuscated.

Anterior lateral pretergites sulphur-yellow. Mesonotal præscutum moderately dark brown, without reddish tints; pseudosutural foveæ and tuberculate pits blackened; posterior sclerites of mesonotum still darker. Pleura dark brown, the dorsal sternopleurite with a yellowish area. Halteres light sulphur-yellow. Legs with the coxæ and trochanters testaceous-yellow; femora obscure yellow, the tips narrowly blackened; tibiæ yellowish brown, the tips darkened; fore tibiæ (♂) with a conspicuous blackened subbasal ring; tarsi dark brown. Wings tinged with greyish brown, the base more yellowish; somewhat more hyaline areas before and beyond the cord, which is lightly seamed with darker; veins pale brown, the prearcular veins more yellowish. Macrotrichia dark brown. Venation: vein 2nd *A* ending about opposite the caudal end of *m-cu*.

Abdomen dark brown. Male hypopygium with the outer dististyle trilobed at apex. Outer basal dististyle

a long, nearly straight or gently sinuous rod, the tip acute, on distal third with scattered erect to subappressed setulæ. Inner basal dististyle nearly two-thirds the length of the outer, appearing as a gently sinuous rod, at apex dilated into a small unarmed spatula.

Hab. Victoria, Tasmania.

Holotype, ♂, Monbulk, Victoria, January 28, 1929 (*F. E. Wilson*).

Paratypes, ♂, Ben Cairn, near Millgrove, Victoria, in beech gully, altitude 2900–3200 feet, February 9, 1929 (*F. E. Wilson*); ♂, Wilmot, Tasmania, January 8, 1923 (*A. Tonnoir*).

There has been an unfortunate confusion between the present species and *M. hastatus*, Alexander. In the original description of the latter (*Ann. & Mag. Nat. Hist.* (9) xx. pp. 359–361, 1927) the Wilmot specimen there mentioned pertains to *M. subhastatus* and is herewith made a paratype. Similarly, the description of the male hypopygium is that of *M. subhastatus*. The hypopygium of true *hastatus* is very similar to that of *pulchripes*, Skuse. The three species mentioned are readily separable by the coloration and details of structure of the male hypopygium. *M. pulchripes* and *M. subhastatus* are darker species, with the mesonotum brown to dark brown; *M. hastatus* has the mesonotum rich reddish brown to fulvous.

Molophilus capitellum, sp. n.

Belongs to the *pervagatus* group; similar to *pulchripes* in the length of the antennæ and general coloration; male hypopygium with the outer dististyle a simple, narrowly triangular head; outer basal dististyle long and slender, the spinous distal third with microscopic setulæ.

Male.—Length about 3 mm.; wing about 3 mm.

Antennæ relatively elongate, if bent backward extending about to the halteres; scapal segments yellow, the flagellum brownish black; in *trianguliferus* the antennæ are much shorter, not or scarcely attaining the wing-root.

Mesonotal præscutum reddish brown, the lateral pretergites conspicuously light sulphur-yellow; posterior sclerites of mesonotum dark brown. Pleura dark brown, with a narrow pale longitudinal stripe on dorsal sternopleurite. Halteres with the knobs more or less covered with dark setæ. Legs with the femora yellow, the tips

narrowly darkened. Male hypopygium with the outer dististyle a simple, narrowly triangular head, much as in *trianguliferus* but narrower, the greatest width of the head being about two-thirds the length, narrowed gradually to a blunt point. Outer basal dististyle a long slender curved rod, the distal third narrowed into a blackened spine, its outer margin with microscopic setulæ. Inner basal dististyle a stouter, more nearly straight rod, the distal fourth with microscopic appressed serrations, the style much as in *pervagatus*.

Hab. New South Wales.

Holotype, ♂, Murrumbidgee River, Federal Capitol Territory, October 5, 1929 (*A. Tonnoir*).

Molophilus capitellum much resembles species such as *M. pulchripes*, Skuse, and *M. pusio*, Alexander, differing from all such forms in the simple outer dististyle of the male hypopygium. The latter structure is narrower, but generally similar in form to that found in *M. trianguliferus*, Alexander, an otherwise very different species.

XII.—*A new Velia from Trinidad (Hemiptera, Veliidæ).*

By Prof. H. B. HUNGERFORD, Department of Entomology, Kansas University, Lawrence.

THE British Museum received recently from Dr. and Mrs. J. G. Myers a series of sixteen specimens of a handsome new *Velia* which they captured in Trinidad*. This species belongs to the *Velia inveruglas*, Kirkaldy, group, which I designated in the 'Annals of the Entomological Society of America,' vol. xxii. p. 761 (1929). It resembles *Velia albotrimaculata*, Kirkaldy, the type of which I have seen in the Royal Museum at Brussels, but differs both in structure and certain colour-markings from that species †.

Velia myersi, sp. n.

Size.—Length 7.2 mm. to 8.7 mm.; width of head 1.2 mm. to 1.3 mm.; width across humeri 2.35 mm. to 2.75 mm.

* [While visiting the Museum, Dr. Myers told us that this species inhabited the surface of water accumulated in holes in tree-trunks, and that in the semi-darkness of such situations only the white spots were visible, moving about in a ghost-like manner.—W. E. CHINA.]

† *Vide* Hungerford, H. B., "Concerning *Velia inveruglas*, Kirkaldy, and related Forms," *Annals Ent. Soc. America*, vol. xxiii. p. 120.